

REMARKS

Applicant and Applicant's attorney express appreciation to the Examiner for the courtesies extended during the recent interview held on April 1, 2009. Reconsideration and allowance for the above-identified application are now respectfully requested. Claims 1-20 are pending, wherein claims 1, have been amended.

The Office Action objects to claims 7 and 8 on the grounds that they contain typographical errors. In response, Applicant has amended these claims in order to make the suggested changes.

The Office Action rejects claims 1-12 under 35 U.S.C. § 103(a) as being unpatentable over Loercks (US 6,062,228) in view of Koster (US 4,291,712) and Figlar (US 6,779,529). In response, Applicant has amended claim 1 in the matter that is believed to distinguish over the applied art.

Claim 1 as amended claims a filter element for manufacturing tobacco smoke filters comprising a filtering material which substantially contains starch and/or a starch-based polymer mixture and comprises pores and/or filter channels being open in the direction of gas flow, the pores and/or filter channels having a diameter in a range of about 50 μm to about 100 μm (*See* Application, original claim 2), wherein the filtering material is arranged in alternately succeeding layers comprised of starch and/or a starch-based polymer mixture and activated carbon and the layers are stacked transversely with respect to the direction of gas flow. Applicant submits that the applied art neither teaches nor suggests the combination of elements recited in claim 1 as amended.

For example, as discussed during the Examiner Interview, Loercks discloses a filter element for manufacturing tobacco smoke filters made from starch or starch-based polymer mixture. Loercks is silent with respect to the inclusion of activated carbon or the inclusion of pores and/or filter channels through the filter element. Koster discloses the use of adsorption particles in conventional filters made from cellulose acetate but does not disclose filters made from starch and/or starch-based polymer mixtures. Koster is also silent with respect to the inclusion of pores and/or filter channels through the filter element. Figlar discloses a conventional filter made from cellulose acetate having relatively large channels therethrough, which are either 0.5 mm in diameter or else 1 mm in diameter. Column 1, lines 45-48. As discussed and agreed to during the Examiner Interview, claim 1 as amended appears to distinguish over the art of record.

Claims 2-12 depend from claim 1 and are likewise patentable over the art of record. In addition, they recite additional elements that may further distinguish over the art of record. For example, claim 6

further requires the inclusion of natural fibers selected from the group consisting of cellulose fibers, hemp and cotton fibers in an amount of about 5% by volume. None of the applied references disclose or suggest the inclusion of natural fibers in addition to starch and/or starch-based polymer mixture in a filtering material, much less cellulose fibers, hemp or cotton fibers. Loercks, for example, teaches that the starch material used to make the filtering material can be in the form of a fiber, film or foam. Loercks also discloses that conventional cigarette filters can be made from cellulose acetate fibers. Column 1, lines 15-17. However, the purpose of Loercks is to replace cellulose acetate fibers with fibers made from starch or starch polymer blends. Loercks does not disclose manufacturing a filter element that includes both starch or a starch polymer blend and cellulose acetate fibers. Moreover, cellulose acetate fibers are not "natural fibers". Cellulose acetate is not natural cellulose but a man-made derivative thereof. In addition, claim 6 specifies that the natural fibers are selected from the group consisting of cellulose fibers, hemp and cotton fibers.

New claim 13 alternatively claims a filter element for manufacturing tobacco smoke filters comprising a filtering material which substantially contains starch and/or a starch-based polymer mixture and includes a plurality of pores and/or filter channels aligned partly transversely relative to the direction of gas flow through the filtering material (*See* Application, p. 3, lines 21-22), wherein the filtering material is arranged in alternately succeeding layers comprised of starch and/or a starch-based polymer mixture and activated carbon and the layers are stacked transversely with respect to the direction of gas flow. Applicant submits that new claim 13 as presented is patentable over the art of record.

For example, claim 13 claims pores or channels which are aligned partly transversely relative to the direction of gas flow through the filtering material. Pores or channels oriented in this manner are not oriented axially relative to the gas flow. In contrast, Koster specifies that the one or more channels "can be made exactly axially". Column 1, lines 31-32. No where does Koster disclose or suggest including pores or filter channels that are aligned partly transversely relative to the direction of gas flow through the filtering material. As none of the other references disclose or suggest anything relative to pores and/or filter channels, Applicant submits that claim 13 as presented is patentable over the art of record.

Claims 14-16 depend from claim 13 and are likewise patentable over the art of record. In addition, they recite additional elements that may further distinguish over the art of record. For example, claim 16 specifies that the pores and/or filter channels have a diameter in a range of about 50

microns to about 100 microns. As discussed above relative to claim 1, none of the art of record discloses or suggests pores and/or filter channels having a diameter within this range.

Claim 17 alternatively claims a filter element for manufacturing tobacco smoke filters comprising: a filtering material which contains substantially starch and/or a starch-based polymer mixture and at least about 5% by volume of natural cellulose fibers, and which includes a plurality of pores and/or filter channels extending at least partially through the filtering material, wherein the filtering material is arranged in alternatingly succeeding layers comprised of starch and/or a starch-based polymer mixture and activated carbon and the layers are stacked transversely with respect to the direction of gas flow. Applicant submits that new claim 17 recites a combination of elements that are neither taught nor suggested in the applied art.

For example, and as discussed above relative to claim 6, the applied art neither teaches nor suggests a filtering element that includes starch or a starch-based polymer mixture together with at least about 5% by weight of cellulose fibers. Loercks discloses manufacturer filtering elements made from starch and/or starch polymer blends in order to replace cellulose acetate, which is commonly used to make cigarette filters. Loercks does not disclose or suggest blending cellulose acetate in starch or starch polymer blends to yield a filter material. Moreover, cellulose acetate is not a natural cellulose material but rather a man-made derivative of cellulose. Accordingly, Applicant submits that claim 17 is patentable over the art of record.

Claims 18-20 depend from claim 17 and are likewise patentable over the art of record. In addition, they recite additional elements that may further distinguish over the art of record. For example, claim 19 specifies that the pores and/or filtered channels have a diameter in a range of about 50 microns to about 100 microns. As discussed above, relative to claim 1, the applied neither teaches nor suggests pores and/or filter channels having the specified diameter.

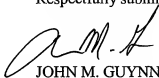
Claim 20 specifies that the natural cellulose fibers comprise at least one of cotton or hemp fibers. There is no teaching or suggestion in the art of record relative to the use of cotton or hemp fibers in combination with starch and/or starch polymer blends when making cigarette filter elements.

In the event the Examiner finds any remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview or which may be overcome by Examiner amendment, the Examiner is requested to contact the undersigned attorney.

The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to **Deposit Account No. 23-3178**: (1) any filing fees required under 37 CFR § 1.16; (2) any patent application and reexamination processing fees under 37 CFR § 1.17; and/or (3) any post issuance fees under 37 CFR § 1.20. In addition, if any additional extension of time is required, which has not otherwise been requested, please consider this a petition therefore and charge any additional fees that may be required to **Deposit Account No. 23-3178**.

Dated this 15th day of May 2009.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "J.M. Gynn", is written over the printed name.

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